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with the Hankow-Canton railway station in Wu-ch'ang, as well as a number of bridges to permit avoidance of grade crossings. In size and engineering complexity, this project as a whole exceeds any other in the history of bridge construction in China, and is seldom paralleled in other countries.

According to provisional plans, the main Yangtze River bridge will be over 1,000 meters long. It will have two decks; the upper deck will carry a broad highway for vehicular and pedestrian traffic, and the lower deck will carry two railway tracks for train traffic in both directions. The main bridge will cross the Yangtze River at its narrowest point in the vicinity of Hankow, namely, from Kuei Shan in Han-yang to She Shan in Wu-ch'ang. In order that it may serve all needs to the maximum degree, the bridge will be higher and have longer spans than any other bridge in the country. The bridge structure, from the base of the piers to the top of the trusses will be as high as a 20-story skyscraper. All river boats proceeding upstream will be able to pass under the bridge without hindrance at any stage of high or low water. Even the Ch'-ien-t'ang Chiang bridge and the old Peiping-Hankow Railway bridge across the Yellow River will have to take a back seat.

Surveys for this bridge began in March 1950. This work and the initial studies of design were carried out by our own engineers and technicians under the guidance and with the assistance of Soviet advisers. Besides appointing a special commission to be in charge of the construction of this bridge, the government in 1950, 1951, and 1953, called three conferences on the subject that were attended by all the bridge engineers and engineering professors in the country, and representatives of important interested parties, for discussion of all phases of the project. After the provisional plans were made in May 1953, they were sent for technical study and criticism to a special commission of 25 noted bridge experts and professors appointed by the Soviet government. The provisional plans were then amended in the light of the advice of the Soviet commission. Work on the construction of this great bridge will lay a foundation for the creation of an able body of experienced bridge builders for new China.

Construction work on the Han Chiang bridge started in November 1953; actual construction on the main Yangtze River bridge is not planned to start formally until the last quarter of 1955. At present, innumerable complex preparations for the work on the main bridge are in progress. These preparations include working drawings, establishment of properly equipped mechanical workshops at the work site, manufacture or purchase and assembly of a large quantity of heavy mechanical equipment and tools, procurement and delivery of large quantities of structural materials, and organization of the working forces. These and other matters must be fully attended to before actual construction can begin. Since the rivers are wide, deep, and swift-flowing, and the high-water season is long, mechanized equipment and mechanical methods must be used as far as possible. More than ten kinds of mechanized equipment such as bulldozers, pile drivers, mobile cranes, transport vehicles, barges, and other water craft, are being assembled in large numbers at the work site.

In April 1953, the Wuhan Yangtze River Bridge Engineering Bureau was established in Wuhan. Working under it are a thousand or more mechanical, structural, and civil engineers, draftsmen, and office workers having some 50 different kinds of skills, who have been gradually brought together from such places as the Canton, Liu-chou, Cheng-chou, Shanghai, and Tientsin railway bureaus, and other government and commercial agencies. The erection of buildings for the use of the staff and working forces is now going on.

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YANGTZE RIVER BRIDGE CONSTRUCTION DATA -- Peiping, Kung-jen Jih-pao, 10 Feb 54

Peiping (Hsin-hua She) -- Crews of 70 or more engineers and skilled workers have been engaged for the past 3 years in making surveys and drilling test holes for bridge foundations to find the best location for the great Yangtze River bridge. The site finally chosen, one of five locations that were tested and given consideration, is at the narrowest point of the river between Han-yang and Wu-ch'ang; the bedrock is of limestone, the superposed earth is most solid, and it offers the most favorable and economical location of the bridge approaches for the connecting railroads.

At this point the velocity of flow is sometimes nearly 3 meters per second and the depth of water as much as 30 meters. This arduous, difficult, and expensive preliminary work not only produced the data on which the scientific design of the bridge is based. It also gave practical training to 400 apprentices 40 of whom have been assigned to work on similar projects in the Northeast, the Northwest, and the Southwest. -- Feng Chien and Lin Yao

ENTHUSIASM CHARACTERIZES HAN CHIANG BRIDGE WORKERS -- Peiping, Kung-jen Jih-pao, 17 Feb 54

Experienced workers are entering with great enthusiasm upon the task of building the Han Chiang bridge which is an important adjunct of the great Yangtze River bridge. Crews that have just completed the Hsiang Chiang bridge, near Hsiang Chiang bridge, near Hsiang-t'an, Hunan, have joined men that worked on the Ch'ien-t'ang Chiang bridge, near Hang-chou, Chekiang. They vow that the piers for the new bridge will be completed to a level above high water before next season's flood waters arrive.

The Wu-Han-Yeh Electric Power Plant workers have installed underground cables, and promise an ample supply of electric power to meet all needs, with no interruptions. The workers of the Wu-ch'ang Shipbuilding Works have speeded up work on the sheet piles used in building the bridge piers, so as to insure delivery within 5 days instead of 18 days as previously scheduled. The engineering division of the Yangtze River Water Conservation Commission have loaned a 5-ton crawler-mounted crane, and promise other equipment as needed.

The pile driving is the most urgent of the operations now in progress, for if piers No 3, No 4, No 5, and No 6 are not completed before the arrival of high water, work on the superstructure will be delayed a year. The floating crane at work on pier No 5 suddenly had trouble with a bearing of the main shaft which threatened serious delay. But the Kiang-an Locomotive and Car Works of Hankow came to the rescue, assigning their most skillful workmen to the job of casting a new piece, so that no appreciable delay was suffered. The crew at work on pier No 4 showed very poor efficiency until competition between the crews was started; then crew No 4, benefiting by the suggestion of a Soviet adviser, increased their speed of driving from one pile to 5 piles per day.

Acting on another suggestion of a Soviet advisor, a concrete mixing plant was built wherein the process of weighing and mixing the ingredients and the discharge of the mixture is automatic. The whole mixer is dismountable and may be taken down, moved to another pier, and reassembled to supply the immense quantity of concrete that is required. A 31-meter high, full-circle swing, all-purpose pile driver, and an air-controlled dragline crane built at one of our own bridge works, are doing work that saves a great amount of human labor. Three barge-mounted cranes operate on the river, the largest of which is able to hoist 70 tons. They have a long boom and perform an important function in connection with the pile driving.

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The use of much mechanized equipment in operations guided by advanced experience, results in greatly speeding up progress on the project. At present writing, the driving of piles for pier No 4 is finished, and that for piers No 5 and No 6 will soon be completed. Concrete work on the abutments for the Hankow end of the bridge has already started, as well as the earthwork grading for the bridge approaches. -- Li Ping, staff writer

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